THURSDAY, JUNE 13, 1872

THE BRITISH MUSEUM

THE Return published by order of the House of Commons on April 19, 1872, of the progress made in the arrangement of the collections, and of the objects which have been added during the past year to the National Museum, is a document which, although only seen by a very few persons, cannot fail to be of interest to a very large proportion of English people, and also to those engaged in scientific pursuits all over the world.

Confining our attention to the Natural History Department, and commencing with Prof. Owen's general report, we find that, although every care has been taken on the part of Heads of Departments to limit in all possible ways by declining or postponing all acquisitions not absolutely and immediately pressing, the annual tide of new specimens still flows in, and during the past year 15,879 specimens have been added to and incorporated with the present crowded series.

Everywhere throughout Prof. Owen's report the old grief of "want of space" is introduced and persistently pressed upon the attention of the Legislature; but at the same time allusion is also constantly made to the time when the requirements for increased exhibition-space, and more adequate store-rooms and cabinets, will have all been met by the galleries of the new Museum.

We are glad to see that Prof. Owen puts forward other very good and sound reasons, besides the mere overcrowding, in favour of a speedy release from the too-restricted galleries and studies to which the collections under his care are at present restricted. "Inadequacy of space," writes the Superintendent, "is associated with loss of time." Thus: "To meet the wishes and expectations of scientific visitors and students in regard to opportunities of study and inspection of specimens relating to the latest advances in natural history, the well-filled or crowded exhibition-galleries and cases have to undergo more or less of re-arrangement with removal and interchange of specimens, in order to allow place and access to the novelties."

Again, in the case of the delicate and brittle specimens, the risk which is now incurred in frequently shifting these will then be reduced to its minimum, and, consequently, the chances of preserving such treasures will be greatly increased. It now not unfrequently happens that an entire series of objects have to be removed and rearranged to gain a few feet or even inches of space in some cases.

All this labour and care in the re-adjustment of series, which would be needless if there were abundance of exhibition space, will be removed in the new Museum, and the same amount of labour can be devoted to the more satisfactory task of classification and the true advancement of Natural Science.

Prof. Owen gives in a tabulated form the annual additions made to each Department during the twelve years from 1859-70. The total increase for each is as under:—

	Zoology	Geology	Mineralogy	Botany	TOTAL
Total increase for 12 years..	435,492	78,434	24,945	123,409	662,280*

Of course, in certain years the increase in one or other of these Departments has been specially large; thus in 1863 98,754 specimens were added to the Zoological Department, whilst in the following year only 7,688 specimens were acquired. After all, numbers only convey a very imperfect idea of increase, so much depends upon the size of objects themselves. Thus, for instance, a collection of Coleopterous insects, comprising many thousands of examples, may all be contained in a small cabinet of twenty drawers; whilst a tapir, antelope, or other quadruped may when stuffed need a case all to itself, or a whale may require an entire gallery 90ft. long for its proper display. We are glad to hear that the birds and shells are better off for room than the other Natural History divisions; we have always felt when passing through this gallery with its fine series of table-cases, and the birds occupying the wall-cases, that these two groups were specially favoured; whilst the adjoining mammalian-saloon but very inadequately represented the actual exhibition needs of the higher animals. All this Prof. Owen tells us will be set right in the new Museum.

The use of methylated spirit for the preservation of Reptilia and fishes has produced in some cases injurious results to some of these specimens. Dr. Günther will, no doubt, speedily remedy this mischief, and the purer medium must in future alone be used. All the other collections are reported as in good preservation.

There is a long list as usual of additions to each of the Departments. Dr. Gray reports a fine series of Lemurs from Madagascar; a *Grampus Rissoanus*, and a Pike whale (*Balænoptera rostrata*), from the English coast. Various Mammals from Abyssinia, chiefly of the Antilope family. Among the Birds we find Pheasants, Hornbills, and Pigeons, and many lesser members of the feathered tribe. Fishes, Reptiles, Mollusca, and tribes of Insects, have also been added, likewise specimens of the "Glass-rope-*sponge*" (called a "Coral" in the Report), the *Hyalonema* from Japan, and the beautiful vitreous sponge, the *Pheronema Grayi*, from the coast of Portugal. Making a total in all of 10,577 specimens added during the past year to the Zoological Department.

Of Fossils there seems to be a goodly supply. From the La Plata come bones of the *Toxodon*, *Mylodon*, and *Macrauchenia*, the *Drepanodon*, and the *Glyptodon*; from Australia remains of the *Thylacoleo* (that queer marsupial which Prof. Owen demonstrates to be a carnivore, and Prof. Flower essayed to make out to be only a great root-feeding Wombat), the *Diprotodon* (a gigantic kangaroo, which probably did not hop, like the modern kangaroo, but went on all-fours), the *Nototherium*, *Macropus*, and many others. The most important acquisition during the past year is that of the Van Breda collection from Haarlem. This well-known collection, commenced by Dr. Peter Camper, the celebrated Dutch anatomist, more than 100 years ago, has since been largely increased by his grandson, the late Prof. Van Breda, secretary for more than fifty years to the Royal Dutch Society in Haarlem, who inherited Camper's original collection.

The series of specimens is particulary rich in remains of the great Meuse lizard, the *Mosasaurus hofmani*, and of a giant tortoise, the *Chelone hofmani*, and many fine remains of fishes and reptilia from the Maestricht chalk,

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* The total numbers are wrongly cast in the printed return.

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the Solenhofen stone, the Brown Coal of Bonn, the Miocene limestone of Oeningen, and the Trias and Keuper of Germany.

Of English fossils the finest addition is that of the Wetherell collection, the author of which was for more than fifty years a diligent collector of London clay fossils at Highgate and its vicinity. This collection is a truly Metropolitan series, and will, when the new Museum is prepared, doubtless have, as it deserves, a suitable exhibition case. Altogether there have been added to the Department of Geology a total of 4,789 specimens.

Mineralogical science is well cared for by Prof. Maskelyne. Only 513 specimens have been added, but these are each one a valuable addition to the cases. Among the most important may be mentioned the Chlorides and Iodides of Silver, in distinct crystals, from Chili, and a series of remarkable crystals and masses of Iceland spar.

In the Laboratory new minerals of the Dufrenite class have been examined, to which the name "Andrewsite" has been given; a blue mineral from South Africa proves on analysis to be "Percylite," only known hitherto in the specimen preserved in the British Museum. The Cranbourne Meteorite is still being investigated.

In the Botanical Department, Mr. Carruthers reports a long series of important acquisitions during the past year. Among other interesting additions to the exhibited series may be named a series of microscopic preparations of fossil plants, selected partly from the collection bequeathed by Robert Brown, and partly from the specimens subsequently acquired by the trustees, and exhibited so as to show their minute structure by the help of light reflected from mirrors.

It will be seen that the key-note of the Report is the hope of better times coming, not only for the National Collection, but for its Officers, in the New Museum. In this hope we most heartily concur, and trust that not the least reform which will then be inaugurated will be the entire modification of the present system, by which the actual amount of instruction gained by the public appears to be in inverse proportion to the vast resources of this great establishment if well and ably administered. This is not as it should be. There is no reason why the British Museum should not become, under its new management, one of the first educational establishments of the country.

NEW WORKS ON GEOMETRY

Solid Geometry and Conic Sections, with Appendices on Transversals and Harmonic Division; for the Use of Schools. By J. M. Wilson, M.A. (Macmillan and Co. 1872.)

Geometrical Note-Book, containing Easy Problems in Geometrical Drawing preparatory to the Study of Geometry; for the Use of Schools. By F. E. Kitchener, M.A. 2nd edition, revised. (Macmillan and Co.)

THESE works are by mathematical masters at Rugby School. Their united aim (in connection with Mr. Wilson's two previous parts) is to provide a complete course of geometrical teaching, and so to meet a crying want of our schools, which has of late led to so much agitation. It is now nearly four years since Mr. Wilson's first part and Mr. Kitchener's first edition appeared, at which date an eminent reviewer, in his notice of the "Elementary Geometry," remarked that the forces were mustering for the battle. Since that time considerable progress has been made in the agitation, and, thanks to the Association for the Improvement of Geometrical Teaching, which owes its origin in part to a correspondence commenced in this journal, there seems to be a fair prospect, if not of perfect success, yet of the whole subject of geometrical teaching being placed on a more satisfactory basis.

The very first resolution put forward by this Association in its second Annual Report is, "That some practical familiarity with geometrical construction should precede theoretical study; and that the teaching of geometry would gain by the free introduction of easy exercises and numerical examples or illustrations." We presume that a main object of Mr. Kitchener's book is to meet this suggestion; and from the fact of a second edition being called for we may fairly suppose that it has met a felt want. It will be barely necessary to do more here than point out wherein this edition differs from its predecessor. Without going into details, we may state that the size of the page has been materially enlarged; that instead of blank spaces being left for figures to be drawn by pupils on the printed pages, there are now inserted between every two pages of type two sheets of admirable blank paper. The paging is continued on these blank sheets. There are three parts in the place of two; the use of the protractor is relegated to part ii.; on p. 37 a return has been made to Euclid's definition of parallels (this is doubtless in consequence of the agreement come to and embodied in the seventh resolution of the above cited Report); the third part contains a few simple constructions connected with tangency and the circumscription of figures. There are apparently no typographical errors in this well got-up work, and we take leave of it commending it to all teachers engaged in the arduous task of instilling geometrical notions into junior students' heads.

It appears to us that the following are the only oversights to point out:—Should not 7 precede 6 on p. 49? Exercise 30, p. 25, should be expunged; it is given on p. 61, 4, where a definition is given which is wanting in the former place. In Exercise 14, p. 62, the case of parallel lines has been overlooked; and on p. 50, for 514 we get 534 nearly =.

To turn now to Mr. Wilson's book. This is characterised by his usual clearness and ability. The selections and the grouping are, in the main, all that we desire in a school treatise; we would, however, have preferred a somewhat more extended treatment of the sphere and cylinder. Some properties of the former are cited on p. 79 which have not been given in the work itself. A little fuller notice of these solids would fit the book to meet the requirements of candidates for the B.A. London Examination; as by a recent extension of the University scheme students are expected to be acquainted with the proofs of the properties of these figures, which are assumed in treatises on mensuration of solids. As indicated in the title, the work consists of three parts; the first part covers the ground occupied by Euclid xi. 1—21, and further treats of polyhedra and stereometry, the whole presented in a clear and satisfactory manner, certainly in a form not hard to be

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